```
DT   25-MAR-2003  (revised)
DT   25-SEP-1995  (first entry)
XX
DE   Human recombinant aFGF.
XX
KW   Acidic fibroblast growth factor; aFGF; vulnerary; angiogenesis; mitogen.
XX
OS   Homo sapiens.
XX
PN   US5401832-A.
XX
PD   28-MAR-1995.
XX
PF   25-SEP-1992;   92US-00951365.
XX
PR   24-DEC-1984;   84US-00685923.
PR   12-SEP-1985;   85US-00774359.
PR   30-MAY-1986;   86US-00868473.
PR   11-JUL-1986;   86US-00884460.
PR   04-JUN-1987;   87US-00054991.
PR   04-MAY-1988;   88US-00190293.
PR   08-FEB-1991;   91US-00654397.
PR   25-SEP-1991;   91US-00765472.
XX
PA   (MERI ) MERCK & CO INC.
XX
PI   Linemeyer DL,  Thomas KA,  Kelly LJ,  Gimenez-Gallego G;
XX
DR   WPI; 1995-138983/18.
XX
PT   New recombinant human acidic fibroblast growth factor - used to promote
PT   cell growth, to promote wound healing, for vascular grafts and blood
PT   vessel repair.
XX
PS   Claim 2; Col 30; 25pp; English.
XX
CC   Oligonucleotides were synthesized on the basis of the amino acid sequence
CC   of bovine acidic fibroblast growth factor (aFGF) and used to produce a
CC   synthetic gene (given in AAQ88233) incorporating codons preferred by E.
CC   coli or mammalian cells, unique cloning sites, etc. This synthetic gene
CC   was mutagenized to obtain a gene encoding a human recombinant aFGF
CC   (AAR74647) having activity equivalent to the native protein. (Updated on
CC   25-MAR-2003 to correct PF field.)
XX
SQ   Sequence 140 AA;

  Query Match             99.3%;  Score 757;  DB 2;  Length 140;
  Best Local Similarity   100.0%;  Pred. No. 6.1e-78;
  Matches  140;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FNLPPGNYKKPKLLYCSNGGHFLRILPDGTVDGTRDRSDQHIQLQLSAESVGEVYIKSTE 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 FNLPPGNYKKPKLLYCSNGGHFLRILPDGTVDGTRDRSDQHIQLQLSAESVGEVYIKSTE 60

Qy         62 TGQYLAMDTDGLLYGSQTPNEECLFLERLEENHYNTYISKKHAEKNWFVGLKKNGSCKRG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TGQYLAMDTDGLLYGSQTPNEECLFLERLEENHYNTYISKKHAEKNWFVGLKKNGSCKRG 120

Qy        122 PRTHYGQKAILFLPLPVSSD 141
              ||||||||||||||||||||
Db        121 PRTHYGQKAILFLPLPVSSD 140


RESULT 11
AAW04806
ID   AAW04806 standard; protein; 140 AA.
XX
AC   AAW04806;
XX
DT   25-MAR-2003  (revised)
DT   29-DEC-1996  (first entry)
XX
DE   Human acidic fibroblast growth factor.
XX
KW   Endothelial cell growth factor; ECGF; blood vessel; regeneration;
KW   heparin-Sepharose affinity chromatography; probe; oligonucleotide; FGF;
KW   fibroblast growth factor; ss.
XX
OS   Homo sapiens.
XX
PN   US5552528-A.
XX
PD   03-SEP-1996.
XX
PF   03-NOV-1994;   94US-00334884.
XX
PR   03-MAR-1986;   86US-00835594.
PR   18-DEC-1987;   87US-00134499.
PR   29-APR-1991;   91US-00693079.
PR   27-NOV-1991;   91US-00799859.
XX
PA   (RHON ) RHONE POULENC RORER PHARM INC.
XX
PI   Maciag T,  Burgess W;
XX
DR   WPI; 1996-412132/41.
DR   N-PSDB; AAT37503.
XX
PT   Isolated, purified, biologically active bovine beta endothelial cell
PT   growth factor - useful to regenerate or treat damaged blood vessels.
XX
PS   Disclosure; Fig 8; 28pp; English.
XX
CC   Bovine beta-endothelial cell growth factor (beta-ECGF; AAW03999) having a
CC   mol.wt. of 20 kD can be purified at least 16300 fold from bovine brain
CC   using heparin-Sepharose affinity chromatography. ECGF is useful for,
CC   among other purposes, diagnostic applications and has potential in the
CC   treatment of damaged blood vessels or other endothelial cell-lined
CC   structures. Human ECGF (AAT37503) or fragments may be obtained using
CC   oligonucleotides (AAT37504 and AAT37508 to AAT37509) whose design is
CC   based on the sequence of bovine alpha- and beta-ECGF. (Updated on 25-MAR-
CC   2003 to correct PF field.)
XX
SQ   Sequence 140 AA;

  Query Match             99.3%;  Score 757;  DB 2;  Length 140;
  Best Local Similarity   100.0%;  Pred. No. 6.1e-78;
  Matches  140;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          2 FNLPPGNYKKPKLLYCSNGGHFLRILPDGTVDGTRDRSDQHIQLQLSAESVGEVYIKSTE 61
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 FNLPPGNYKKPKLLYCSNGGHFLRILPDGTVDGTRDRSDQHIQLQLSAESVGEVYIKSTE 60

Qy         62 TGQYLAMDTDGLLYGSQTPNEECLFLERLEENHYNTYISKKHAEKNWFVGLKKNGSCKRG 121
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 TGQYLAMDTDGLLYGSQTPNEECLFLERLEENHYNTYISKKHAEKNWFVGLKKNGSCKRG 120

Qy        122 PRTHYGQKAILFLPLPVSSD 141
              ||||||||||||||||||||
Db        121 PRTHYGQKAILFLPLPVSSD 140


RESULT 12
AAW04805
ID   AAW04805 standard; protein; 154 AA.
XX
AC   AAW04805;
XX
DT   25-MAR-2003  (revised)
DT   29-DEC-1996  (first entry)
XX
DE   Human beta-endothelial cell growth factor.
XX
KW   Endothelial cell growth factor; ECGF; blood vessel; regeneration;
KW   heparin-Sepharose affinity chromatography; probe; oligonucleotide; FGF;
KW   fibroblast growth factor.
```

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Db        241 CCAGCACATTCAGCTGCAACTCTCGGCCGAAAGCGTTGGAGAGGTCTATATCAAGTCGAC 300

Qy        301 GGAGACTGGCCAGTACCTTGCCATGGACACCGATGGGCTTCTGTATGGCTCACAGACGCC 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 GGAGACTGGCCAGTACCTTGCCATGGACACCGATGGGCTTCTGTATGGCTCACAGACGCC 360

Qy        361 TAACGAAGAATGCTTGTTTCTAGAAAGACTAGAAGAAAACCATTACAACACGTACATATC 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 TAACGAAGAATGCTTGTTTCTAGAAAGACTAGAAGAAAACCATTACAACACGTACATATC 420

Qy        421 GAAAAAACATGCAGAGAAGAACTGGTTTGTAGGCCTTAAAAAAAAATGGTTCCTGTAAGCG 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 GAAAAAACATGCAGAGAAGAACTGGTTTGTAGGCCTTAAAAAAAAATGGTTCCTGTAAGCG 480

Qy        481 TGGACCACGGACTCACTATGGCCAAAAGGCTATCTTGTTCCTGCCACTACCAGTGAGCTC 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 TGGACCACGGACTCACTATGGCCAAAAGGCTATCTTGTTCCTGCCACTACCAGTGAGCTC 540

Qy        541 CGACTAAGGATCCGAATTCGAGCTCCGTCGACAAGCTTGCGGCCGCACTCGAGCACCACC 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 CGACTAAGGATCCGAATTCGAGCTCCGTCGACAAGCTTGCGGCCGCACTCGAGCACCACC 600

Qy        601 ACCACCACCACTGAGATCCGGCTGCTAACA 630
              ||||||||||||||||||||||||||||||
Db        601 ACCACCACCACTGAGATCCGGCTGCTAACA 630


RESULT 2
US-09-929-918-6
; Sequence 6, Application US/09929918
; Patent No. 6773899
; GENERAL INFORMATION:
;  APPLICANT: Kordyum, Vitaliy A.
;  APPLICANT:  Chernykh, Svitlana I.
;  APPLICANT:  Slavchenko, Iryna Yu.
;  APPLICANT:  Vozianov, Oleksandr
;  TITLE OF INVENTION: PHAGE-DEPENDENT SUPER PRODUCTION OF
;  TITLE OF INVENTION:  BIOLOGICALLY ACTIVE PROTEIN AND PEPTIDES
;  FILE REFERENCE: PHAGE.006A
;  CURRENT APPLICATION NUMBER: US/09/929,918
;  CURRENT FILING DATE:  2001-08-15
;  PRIOR APPLICATION NUMBER: 09/318,288
;  PRIOR FILING DATE: 1999-05-25
;  NUMBER OF SEQ ID NOS: 11
;  SOFTWARE: FastSEQ for Windowe Version 4.0
; SEQ ID NO 6
;   LENGTH: 630
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: This sequence is a chemically synthesized sequence
;   OTHER INFORMATION: encoding a 140 amino acid form of fibroblast
;   OTHER INFORMATION: growth factor with alterations for preferred codon
;   OTHER INFORMATION: usage in E. coli
;   NAME/KEY: CDS
;   LOCATION: (122)...(544)
US-09-929-918-6

  Query Match           100.0%;  Score 630;  DB 4;  Length 630;
  Best Local Similarity  100.0%;  Pred. No. 1e-183;
  Matches  630;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 GCGTAGAGGATCGAGATCTCGATCCCGCGAAATTAATACGACTCACTATAGGGGAATTGT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GCGTAGAGGATCGAGATCTCGATCCCGCGAAATTAATACGACTCACTATAGGGGAATTGT 60

Qy         61 GAGCGGATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GAGCGGATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA 120

Qy        121 TATGTTTAACCTTCCGCCCGGGAATTACAAAAAACCCAAGCTTCTTTACTGCAGTAACGG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 TATGTTTAACCTTCCGCCCGGGAATTACAAAAAACCCAAGCTTCTTTACTGCAGTAACGG 180

Qy        181 AGGACACTTCCTGCGAATTCTGCCAGATGGCACAGTAGATGGGACTCGCGATCGCTCCGA 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 AGGACACTTCCTGCGAATTCTGCCAGATGGCACAGTAGATGGGACTCGCGATCGCTCCGA 240

Qy        241 CCAGCACATTCAGCTGCAACTCTCGGCCGAAAGCGTTGGAGAGGTCTATATCAAGTCGAC 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 CCAGCACATTCAGCTGCAACTCTCGGCCGAAAGCGTTGGAGAGGTCTATATCAAGTCGAC 300

Qy        301 GGAGACTGGCCAGTACCTTGCCATGGACACCGATGGGCTTCTGTATGGCTCACAGACGCC 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 GGAGACTGGCCAGTACCTTGCCATGGACACCGATGGGCTTCTGTATGGCTCACAGACGCC 360

Qy        361 TAACGAAGAATGCTTGTTTCTAGAAAGACTAGAAGAAAACCATTACAACACGTACATATC 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 TAACGAAGAATGCTTGTTTCTAGAAAGACTAGAAGAAAACCATTACAACACGTACATATC 420

Qy        421 GAAAAAACATGCAGAGAAGAACTGGTTTGTAGGCCTTAAAAAAAAATGGTTCCTGTAAGCG 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        421 GAAAAAACATGCAGAGAAGAACTGGTTTGTAGGCCTTAAAAAAAAATGGTTCCTGTAAGCG 480

Qy        481 TGGACCACGGACTCACTATGGCCAAAAGGCTATCTTGTTCCTGCCACTACCAGTGAGCTC 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 TGGACCACGGACTCACTATGGCCAAAAGGCTATCTTGTTCCTGCCACTACCAGTGAGCTC 540

Qy        541 CGACTAAGGATCCGAATTCGAGCTCCGTCGACAAGCTTGCGGCCGCACTCGAGCACCACC 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 CGACTAAGGATCCGAATTCGAGCTCCGTCGACAAGCTTGCGGCCGCACTCGAGCACCACC 600

Qy        601 ACCACCACCACTGAGATCCGGCTGCTAACA 630
              ||||||||||||||||||||||||||||||
Db        601 ACCACCACCACTGAGATCCGGCTGCTAACA 630


RESULT 3
US-09-929-945-4
; Sequence 4, Application US/09929945
; Patent No. 6642026
; GENERAL INFORMATION:
;  APPLICANT: Stegmann, Thomas
;  APPLICANT:  Kordyum, Vitaliy A.
;  APPLICANT:  Chernykh, Svitlana I.
;  APPLICANT:  Slavchenko, Iryna Yu.
;  APPLICANT:  Vozianov, Oleksandr
;  TITLE OF INVENTION: SUPER PRODUCTION OF RECOMBINANT
;  TITLE OF INVENTION:  FIBROBLAST GROWTH FACTOR 155
;  FILE REFERENCE: CVGENG.008A
;  CURRENT APPLICATION NUMBER: US/09/929,945
;  CURRENT FILING DATE:  2001-08-15
;  NUMBER OF SEQ ID NOS: 8
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 4
;   LENGTH: 630
;   TYPE: DNA
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Chemically synthesized sequence for human acidic
;   OTHER INFORMATION: Fibroblast Growth Factor (134 amino acids) using
;   OTHER INFORMATION: preferred codons for E. coli
;   NAME/KEY: CDS
;   LOCATION: (122)...(526)
US-09-929-945-4

  Query Match           92.7%;  Score 584;  DB 4;  Length 630;
  Best Local Similarity  97.1%;  Pred. No. 1.5e-169;
  Matches  612;  Conservative    0;  Mismatches    0;  Indels   18;  Gaps    1;

Qy          1 GCGTAGAGGATCGAGATCTCGATCCCGCGAAATTAATACGACTCACTATAGGGGAATTGT 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 GCGTAGAGGATCGAGATCTCGATCCCGCGAAATTAATACGACTCACTATAGGGGAATTGT 60

Qy         61 GAGCGGATAACAATTCCCCTCTAGAAATAATTTTGTTTAACTTTAAGAAGGAGATATACA 120
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